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ABSTRACT

Current psychological literature suggests that positive representations of self and others are associated with sensitivity of caregiving. This study was designed to examine the relationship among self-perceptions, perceptions of family functioning, and caregiving schemata in 618 undergraduates (437 females, 181 males) enrolled in Introductory Psychology courses at Michigan State University. It was hypothesized that mental representations of personal characteristics (e.g., perceptions of an agentic versus a neurotic self) and representations of family functioning (e.g., perceptions of a psychologically healthy versus unhealthy family) would be systematically associated with the characteristics of respondents' "working model" of caregiving. It was further hypothesized that this relationship would be affected by defensive operations which allow the individual to regulate anxiety. Three measures of data were used: (1) Sensitivity To Children (STC) questionnaire; (2) Defense Mechanism Inventory (DMI); and (3) Perception of Personal and Family Characteristics (PPFC) questionnaire. Although results indicated that perceptions of personal functioning, perceptions of family functioning, and defensive functioning are systematically related, no consistent evidence was found to support the hypothesis that perceptions of personal and family system characteristics relate to aspects of respondents' "working models" of caregiving assessed via subject responses to a series of hypothetical parent-child problem situations. (ABL)

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Relationships Between Perceptions of Personal and Family Functioning, Defensive Functioning, and
Working Models of Caregiving

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Abstract

This study was designed to examine the relationship among self-perceptions, perceptions of family functioning, defensive functioning, and caregiving schemata in a sample of 618 college undergraduates. It was hypothesized that mental representations of personal characteristics (e.g., perceptions of an agentic versus a neurotic self) and representations of family functioning (e.g., perceptions of a psychologically healthy versus unhealthy family) would be systematically associated with the characteristics of respondents' "working model" of caregiving. It was further hypothesized that this relationship would be affected by defensive operations which allow the individual to regulate anxiety. Although results indicated that perceptions of personal functioning, perceptions of family functioning, and defensive functioning are systematically related, no consistent evidence was found to support the hypothesis that perceptions of personal and family system characteristics relate to aspects of respondents' "working models" of caregiving assessed via subject responses to a series of hypothetical parent-child problem situations. Limitations of sample and methodology are discussed, and directions for future research are suggested.

The goal of understanding the causes and concomitants of future sensitive and insensitive parenting is intriguing from both a clinical and research perspective. It would be of great utility to be able to discriminate between those individuals who are "at risk" for later non-optimal caregiving and those who most likely will be sensitive, effective caregivers. As cognitions guide parenting behavior and are predictive of child outcomes (McGillicuddy-Di Lisi, 1985), the assessment of an individual's "working model" of caregiving may provide insight into his/her later effectiveness as a parent. Consequently, the study of the cognitive antecedents of these "working models" of caregiving might be a fruitful endeavor. This work addressed these topics and explored possible relationships among undergraduates' reports of their personal characteristics and family functioning, defensive functioning, and their responses to children in hypothetical problem situations.

Impact of family perceptions on caregiving working models and behavior

One important determinant of "working models" of caregiving behavior suggested by theorizing and research is the individual's perception of his/her family functioning. Thus, the impact of family variables on an individual's later caregiving is "mediated both by his childhood and by his adult perceptions of his parents' behaviors and attitudes" (Bronson, Katten, & Livson, 1959). Specifically, it has been argued that an individual's perception of a phenomenon is the most important variable affecting his/her own behavior (Gecas & Schwalbe, 1986). Sroufe and his colleagues advance that mental representations of family interactions determine expectations for future relationships (Sroufe, 1988; Sroufe & Fleeson, 1986). Similarly, mothers' recollections of relationships with their mothers (i.e., their children's maternal grandmothers) were predictive of current caregiving behaviors in retrospective studies of attachment (Grossmann, et al., 1988; Main, Kaplan, & Cassidy, 1985).

Conceptualizations of perceptions of family functioning. Researchers have demonstrated that perceptions of family health and family environment correlate with individual characteristics which may have an impact on later caregiving behavior (Billings & Moos, 1982). One conceptualization of the major dimensions of family functioning has been advanced by Olson and his colleagues (e.g.,

Olson, 1986; Olson, Russell, & Sprenkle, 1983; Olson, Sprenkle, & Russell, 1979) who view perceptions of family functioning in terms of two orthogonal variables, family cohesion and family adaptability. They view family cohesion as "the emotional bonding members have with one another and the degree of individual autonomy a person experiences in the family system." Perceptions of family cohesion range from low ("disengaged families") to high ("enmeshed families"). The second dimension that Olson describes is family adaptability, which refers to "the ability of a marital/family system to change its power structure, role relationships, and relationship rules in response to situational and developmental stress." Perceptions of family adaptability similarly range from low ("rigid families") to high ("chaotic families"). Although perceptions of moderate levels of family cohesion and moderate levels of family adaptability are hypothesized to be most adaptive and have been associated with optimal intrapsychic and interpersonal functioning (Olson, 1985; Olson, Sprenkle, & Russell, 1979), a linear relationship for family adaptability has been documented as well (Green, Harris, Forte, & Robinson, 1991; Perosa & Perosa, 1990).

Consistent relationships have been reported between perceptions of parental availability, trust, communication, and connectedness, and adolescent social competence, self esteem, and emotional adjustment (Armsden & Greenberg, 1987; Greenberg, Siegel, & Leitch, 1983; Rice, 1990). Similarly, Lamborn, Mounts, Steinberg, and Dornbusch (1991) report that adolescents (aged 14-18) who characterize their parents as "authoritative" appear self-confident, academically oriented, and socially adapted, while those adolescents who perceive their parents as "neglectful" display lower levels of competence and higher levels of misbehavior and psychological distress compared to their peers.

Impact of personal perceptions on caregiving working models and behavior In addition to perceptions of family functioning, a second influential determinant of "working models" of caregiving suggested by previous theory and research is the individual's perception of his/her personal functioning. The relationship between individual adjustment (assessed through self perceptions) and caregiving attitudes and behaviors has been well documented (Belsky, 1984; Lamb & Easterbrooks, 1981).

Conceptualizations of personal functioning. The concept of personal boundaries (Block & Block, 1980a) provides a useful heuristic in delineating the effects of self perceptions on interpersonal and caregiving attitudes and behaviors. The Blocks conceptualize boundaries in terms of permeability (ego-control) and elasticity (ego-resiliency). The construct of ego-control, referring to the balance of an individual's internal states, environment, and behavior, ranges from overcontrol (i.e., excessive boundary impermeability resulting in containment of impulse and inhibition of action and affect) to undercontrol (i.e., excessive boundary permeability resulting in the inability to contain impulse and delay gratification). Ego resiliency refers to the individual's ability to sufficiently accommodate the environmental demands by changes in the level of ego control (Block & Block, 1980a).

Stollak, Crandell, and Pirsch (1991) have noted that:

The construct of boundaries also provides an alternate way of conceptualizing the theoretical domains of attachment, parenting styles, and family structure and dynamics. For example, concepts within each of these domains also describe characteristics of the boundaries among family members. Secure attachment, authoritative caregiving, and optimal levels of cohesion and adaptability may imply optimally permeable and resilient boundaries. Insecure and anxious attachment between parent and toddler/infant, excessively permissive/submissive caregiving, and rigidly enmeshed relationships may imply chronically and excessively permeable and/or brittle boundaries among family members (p. 532).

Alternatively, optimally permeable and resilient boundaries may be reflective of an underlying dimension of personal and interpersonal competence, which is similarly manifested in the context of parent-child interactions and the cognitive representations of these interactions.

Defensive functioning and caregiving working models and behavior

Inherently associated with adults' recollection of childhood experiences are defensive processes which limit the individual's perceptual awareness. Regulatory processes emerge from interpersonal interactions (Sroufe, 1989) and shape social behavior vis à vis expectancies and distortions in perceptions.

Regulatory structures have been conceptualized in terms of cognitive operations (i.e., defense mechanisms) that are designed to moderate the experience of painful thoughts and affects evoked by a threatening stimulus (Cramer, 1988, 1991; Freud, 1946; Vaillant, 1977, 1986). These different forms of defense mechanisms are often thought to form a continuum, ranging from those

more "primitive" defenses which severely restrict the experience and response of individuals within stressful situations to those more "mature" defenses which permit the individual to enjoy those aspects of an experience that arouse difficult thoughts and affects (Aronoff & Stollak, 1991).

Millon (1990) proposes that a consonance exists between an individual's regulatory structures, interpersonal behaviors, perceptions of others, and self-perceptions. Moreover, researchers have suggested that mothers who are insensitive caregivers tend to distort, dismiss, and repress recollections of early interactions with their own mothers.

One illustration of the relationship between perceptions of family functioning, defensive functioning, and caregiving schema that is provided by psychoanalytic theory is the work of Fraiberg, Adelson, & Shapiro (1975), who assert that a mother's childhood experiences unconsciously shape the dynamics of her interactions with her infant. These "ghosts in the nursery" compel mothers, to varying extents, to re-enact scenes from their own childhood in the course of caregiving through the mediation of cognitive structures formed earlier in life. Thus, by virtue of receiving extremely insensitive caregiving, mothers in Fraiberg's research program developed mental representations of insensitive parent-child interaction that subconsciously guided their own caregiving attitudes and behaviors. The defense mechanisms of repression and identification with the aggressor enable the transmission process by maintaining noxious memories outside the mother's realm of awareness.

Thus, as regulatory functioning parallels perceptions of self and others and influences schemata of interpersonal behavior, the assessment of defensive structures is a helpful and important element in predicting working models of caregiving behaviors.

Hypotheses

The present study hypothesized that mental representations of self characteristics (e.g., perceptions of an agentic versus a neurotic self) and representations of family functioning (e.g., perceptions of a psychologically healthy versus unhealthy family) would be systematically associated with the degree of sensitivity of respondents' "working model" of caregiving. It was

further hypothesized that this relationship would be affected by defensive operations which allow the individual to regulate anxiety. Thus, it is predicted that the maturity of the defense mechanisms which respondents rely upon would be related to both the respondents' representations of self and family functioning, and to characteristics of the respondents' "working model" of child caregiving.

Method

Subjects

Subjects for the project were 618 undergraduate students (437 females, 181 males) enrolled in Introductory Psychology courses at Michigan State University. Participation in this study fulfilled research experience requirements of these courses. Subjects were informed that their participation was voluntary and that their responses were to remain confidential.

Measures

CAREGIVING STYLES: Sensitivity to Children (STC) questionnaire. The Sensitivity to Children questionnaire is a projective measure which asks respondents to indicate his/her response as a parent in ten hypothetical parent-child conflict situations. This format, first introduced by Jackson (1956), represents a compromise between the accuracy provided by direct observation for measuring parent attitudes and the convenience of self-report measures. Developed by Stollak, Scholom, Kallman, & Saturansky (1973), the STC items include themes of sibling fighting, stealing, hiding an accident, masturbation, etc.

Scoring categories for the STC were first developed by Gordon (1970, 1975) and Stollak, et al. (1973) to address both theoretically and empirically derived positive and negative aspects of caregiving behavior. These categories were altered in subsequent studies by Teyber, Messé, and Stollak (1977), and Wright and Stollak (1991), and appear in a modified form in the present investigation. Raters were instructed to read the entire protocol to develop a global impression of the respondent's caregiving style, and then to score each protocol using 42 scoring categories on a

five point scale.

The scoring of the Sensitivity to Children Questionnaire was completed by twelve undergraduates who received approximately seven weeks of training. Each protocol was independently scored by three undergraduates. Responses to each of the 42 scoring categories were averaged across raters.

DEFENSIVE FUNCTIONING: Defense Mechanism Inventory (DMI). The Defense Mechanism Inventory (Ihilevich & Gleser, 1986) is a well established instrument that can be used to identify those individuals in a nonclinical population who possess more or less adaptive defensive structures.

The DMI consists of ten vignettes which require the respondent to imagine him/herself in a variety of difficult or frustrating situations (Ihilevich & Gleser, 1986). Each vignette is followed by four subsections regarding the person's actual reaction to the situation, the nature of the person's impulsive reaction or behavioral fantasy in the situation, the person's thoughts in regard to the situation, and the person's affective experience and rationale for feeling the way they would in reaction to the situation. Each subsection has five alternative solutions that the person may choose; these five choices represent the five major clusters of defense mechanisms assessed by the DMI.

Five clusters of defense mechanisms are identified by the DMI: (1) Principalization (PRN) is a defensive operation which involves controlling anxiety through cognitive maneuvers and use of intellect. Examples of the defense mechanisms subsumed by PRN include intellectualization, rationalization, and isolation. (2) Reversal (REV) implies the generation of responses to internal threats to minimize the severity of perceived conflicts and to block anxiety arousing stimuli from reaching awareness. Examples of the defense mechanisms subsumed by REV include denial, repression, and reaction formation. (3) Turning against the self (TAS) involves the generation of negative expectations to cushion self esteem against the effects of anxiety-producing experiences. These defenses are frequently expressed in exaggerated and persistent self-criticism, and depressed affect. (4) Projection (PRO) involves the attribution of personally unacceptable states to others, and is used to justify the expression of hostile thoughts, behaviors, and feelings directed towards others.

(5) Turning against the object (TAO) is a cognitive operation involving the expression of direct or indirect aggression which serves to master perceived external threats or to mask inner conflicts which are too painful to confront consciously.

PERCEPTIONS OF SELF AND FAMILY FUNCTIONING: Perception of Personal and Family Characteristics (PPFC). Items comprising the Perception of Personal and Family Characteristics questionnaire (PPFC) (Stollak, Aronoff, Loraas, Woike, Meyers, & Messé, 1991) were derived from the California Adult and California Child Q-sets (Block & Block, 1980b, 1980c) (the initial items, stated in the third-person, were written in the first-person so that they could be completed by the subject), the Family Adaptability and Cohesion Evaluation Scales (FACES) III (Olson, Portner, & Lavee, 1985), and the Family Self Report Inventory (Beavers, Hulgus, & Hampson, 1986). The respondents were asked to rate each of the statements on a five-point scale.

In the first psychometric study of the properties of this instrument (Stollak, et al., 1991) questionnaire items were submitted to factor analysis, using varimax rotation of the principle components. This analysis resulted five factors with eigenvalues greater than 1. Three factors pertained to perceptions of family functioning (Family Health, Closeness/Enmeshment, and Expressiveness) and two factors pertained to perceptions of personal functioning (Neuroticism and Competence). Cluster analytic procedures were then carried out on these five factors in order to relate the PPFC with the DMI instrument for purposes of validation. Cluster analytic procedures resulted in six separate patterns of five mean-composite, PPFC subscale scores which integrate individual and social characteristics into typologies of interpersonal styles based on the degree to which each scale was positive or negative.

To examine the construct validity of the PPFC instrument, a bivariate crosstabulation was performed to elucidate the relationship between adaptive functioning on the PPFC and adaptive (i.e., "mature") defensive functioning on the DMI. It was found that 21 of the 28 persons in the most adaptive clusters on the PPFC (e.g., Competent/Secure, Independent) were characterized by the most "adaptive" defenses on the DMI (e.g., Principalization, Reversal). Furthermore, 21 of the 27 persons in the least adaptive PPFC clusters (e.g., Disengaged/Avoidant, Volatile/Chaotic,

Enmeshed) utilized the least "adaptive" of defenses on the DMI (e.g., Turning Against Self, Projection, Turning Against Other) ($p < .005$) (Aronoff & Stollak, 1991).

Results

Initial analyses

Analyses of PPFC data. The analyses of the data in the present study included, first, a replication of the factor analysis of a slightly revised PPFC. A principle components factor analysis with varimax rotation yielded a five factor solution, similar to that found in the the previous study (Stollak, et al, 1991). Items were included on one of the following five factors if the absolute value of the loading was equal to .50 or higher: Family Health¹ (e.g., "Our family is good at solving problems together"), Neuroticism (e.g., "I am fearful and anxious"), Agency (e.g., "I am vital, energetic, lively"), Cohesion/Enmeshment (e.g., "We like to do things only with our family but not with others outside the family"), and Family Expressiveness (e.g., "We speak our mind, no matter what"). (See Appendix A for a listing of items which compose the PPFC factors).

Reliability coefficients were computed for the PPFC instrument and the five subscales and were found to demonstrate adequate internal consistency. The Cronbach's alpha for the instrument = .80, Family Health alpha = .75, Neuroticism alpha = .70, Agency alpha = .76, Cohesion/Enmeshment alpha = .77, and Family Expressiveness alpha = .69.

An analysis of the relationships between perceptions of personal and family functioning revealed low but statistically significant positive correlations between Family Health and Personal Agency ($r = .15$, $p < .001$), Family Cohesion ($r = .30$, $p < .001$), and Family Expression ($r = .21$, $p < .001$). Moreover, Personal Agency was positively, and statistically significantly, correlated with

¹ As the large Family Health scale of the PPFC correlated positively with *both* the Mature Defenses and Immature Defenses composites of the DMI (to be described below), the factor was broken down into two groupings, Family Health and Defensive Perceptions of Family Health, and was further refined through regression analyses. Correlation coefficients pertaining to these two composites in the subsequent tables therefore utilize partial correlations rather than zero-order correlations.

Family Cohesion ($r = .10$, $p < .01$) and Family Expression ($r = .27$, $p < .001$).

Analyses of DMI data. A principle components factor analysis with varimax rotation of the DMI subscale scores yielded a three factor solution, in accordance with several previous investigations and reiterates the lack of independence of the scales (see Cramer, 1988). PRN and REV loaded substantially on the first factor, labeled "Mature Defenses;" TAO and PRO loaded substantially on the second factor, labeled "Immature Defenses;" and TAS loaded on the third factor. Factor naming was guided by previous theoretical and empirical work which suggests that individuals who score highest on PRN are the most "psychologically mature" and are most successfully able to contain affective experience, while individuals who score highest on PRO and TAS are the least "psychologically mature" and are less able to successfully contain affective experience (Cramer, 1988, 1991; Aronoff & Stollak, 1991).

Analyses of STC data. The average scores across three raters for each of the 42 scoring categories of the STC were submitted to a principle components factor analysis with varimax rotation. The analyses yielded nine factors with eigenvalues greater than 1.0. Scoring categories were considered reflective of one of the following nine "modes of caregiving" if the absolute value of the loading was equal to .40 or higher: Empathic Communication (e.g., "The person attempts to obtain more information in a genuinely caring manner"), Anger Communication (e.g., "The person lets the child know that s/he is angry with him/her"), Preaches (e.g., "The person exhorts, moralizes, or preaches"), Teases Child (e.g., "The person teases or makes fun of the child"), Withdrawal (e.g., "The person withdraws, submits, avoids confronting the child"), Power Assertion (e.g., "The person gives the child specific directions regarding expected future behavior"), Psychologizes (e.g., "The person analyzes the child, figures the child out, offers the child insight"), Encourages Responsibility (e.g., "The person teaches the child, him/herself, is responsible for what happens to him/herself"), and Allows Fighting (e.g., "The person tries to keep the child from fighting" [-]). Factors resemble, but are not identical to, those obtained in previous research using either the same items (Wright & Stollak, 1991) or verbally-presented hypothetical problem situations (Teyber, Messé, and Stollak, 1977). Differences may also be attributable to changes in the scoring procedure; raters evaluated

each STC scenario individually instead of evaluating the protocol as a whole, as done in this study.

Reliability estimates were calculated for these data by averaging the product-moment correlations between raters (e.g., A-B, A-C, B-C) for each of the nine composite rating scales of the STC (Jacob, Tennenbaum, & Krahn, 1987). Average correlation coefficients for the composite rating scales were as follows: Empathic Communication, $r = .86$; Anger Communication, $r = .82$; Preaches, $r = .73$; Teases Child, $r = .68$; Withdrawal, $r = .67$; Power Assertion, $r = .58$; Psychologizes, $r = .47$; Encourages Responsibility, $r = .59$, and; Allows Fighting, $r = .42$. All coefficients were highly significant ($p < .0005$) and imply good interrater reliability.

Examination of the correlations between modes of caregiving indicate the presence of a positive constellation of caregiving behaviors, akin to "authoritative parenting" (Baumrind, 1973, 1989), consisting of empathy (i.e., Empathic Communication), maturity demands (i.e., Encouraging Responsibility), and involvement (i.e., negative correlation with Withdrawal). Similarly, a negative constellation of caregiving behaviors emerges, resembling Baumrind's description of "authoritarian parenting," consisting of positive correlations between the following modes of caregiving: Anger Communication, Preaches, Teases Child, and Withdrawal.

Refined analyses

Relationships between constructs. An analysis of the correlations between measures of perceptions of personal and family characteristics and measures of defensive functioning indicated that the Family Health factor of the PPFC instrument correlated positively with both the Mature Defenses composite ($r = .15$, $p < .001$) and the Immature Defenses composite of the DMI ($r = .22$, $p < .001$). In order to preserve the construct validity of Family Health subscale, items from this factor were individually correlated with the Mature Defenses and the Immature Defenses composites. A comparison between the magnitudes of the correlation coefficients was used to determine if the item was measure of Family Health or Defensive Perceptions of Family Health (i.e., items that were correlated to a greater extent with Mature Defenses remained a part of the Family Health subscale, while those items which were correlated to a greater extent with Immature Defenses were allocated to a new PPFC scale which was labeled Defensive Perceptions of Family

Health). Because Family Health items still correlated positively and significantly with Immature Defenses ($r = .11, p < .02$), and Defensive Health items still correlated positively and significantly with Mature Defenses ($r = .13, p < .005$), these subscales were further refined through regression analyses in which the variance associated with the correlation between the two scales was removed from each (i.e., the residual scores from the regression procedures were used in subsequent analyses).

Further analysis of the correlations between perceptions of personal and family characteristics (as measured by PPFC scales) and the three composite scales of the DMI indicated that the Family Health was positively correlated with Mature Defensive Functioning ($r = .10, p < .05$) and negatively correlated with both Immature Defensive functioning ($r = -.11, p < .05$) and the lesser-adaptive defense mechanism of Turning Against the Self ($r = -.11, p < .01$). Conversely, Defensive Perceptions of Family Health was positively correlated with Immature Defensive functioning ($r = .22, p < .001$). Similarly, perceptions of personal characteristics related to defensive functioning in the predicted manner. Perceptions of Agency were negatively associated with the usage of the most immature defense mechanism, Turning Against the Self ($r = -.17, p < .001$), and perceptions of Neuroticism were positively correlated with the utilization of Turning Against the self ($r = .29, p < .001$) and negatively correlated with the adaptive, Mature Defenses and less adaptive Immature Defenses ($r = -.18, p < .001, r = -.20, p < .001$, respectively) (See Table 1).

Insert Table 1 about here

In multiple regression analyses (see Table 2), DMI composite scales were used individually as the criterion variables with PPFC factors entered in a stepwise manner as predictors. These series of regression analyses demonstrate the predictive utility of the individual factors of the PPFC, as perceptions of personal and family characteristics predict criterion variables largely in the hypothesized manner. More specifically, Mature Defenses was negatively predicted by Neuroticism, and positively predicted by Family Cohesion; Immature Defenses was positively predicted by Defensive Perceptions of Family Health, negatively predicted by Family Health, and, unexpectedly, negatively predicted by Neuroticism, and; Turning Against the Self was positively predicted by

Neuroticism, negatively predicted by Family Health, and negatively predicted by Personal Agency.

Hypotheses regarding the presence of a systematic relationship between respondents' "working model" of personal and family functioning, defensive functioning, and modes of caregiving were not supported by this investigation. More specifically, results from (a) an analysis of the correlations between STC, DMI, and PPFC factors (Table 1), and (b) multiple regression analyses entailing the nine modes of caregiving as dependent variables with both PPFC scales and DMI composite scales as predictors (Table 3) yielded few statistically significant and interpretable results. The few significant results derived from the multiple regression analyses are best attributed to chance, as 81 statistical analyses (i.e., 9 criterion variables x 6 predictors derived from the PPFC + 3 predictors derived from the DMI) yielded only 5 significant findings (i.e., approximately 6%).

Insert Table 2 and Table 3 about here

Discussion

Current psychological literature suggests that positive representations of self and others are associated with sensitivity in caregiving. Moreover, it has been hypothesized that this relationship is mediated by cognitions (e.g., "working models," attitudes, beliefs, scripts) which guide behavior.

This study was designed to examine possible relationships among college undergraduates' self-perceptions, perceptions of family functioning, defensive functioning, and "working models" of caregiving. It was hypothesized that mental representations of self characteristics (e.g., perceptions of an agentic versus a neurotic self) and representations of family functioning (e.g., perceptions of a psychologically healthy versus unhealthy family) would be systematically associated with the degree of sensitivity of respondents' "working model" of caregiving. It was further hypothesized that this relationship would be affected by defensive operations which allow the individual to regulate anxiety. Thus, it was predicted that the maturity of the defense mechanisms which respondents rely upon would be related to both the respondents' representations of self and family functioning,

and to characteristics of the respondents' "working model" of child caregiving.

Parallels between perceptions of self and family. First, consistent with attachment theory, the data indicated that an individual's working model of personal functioning tends to be concordant with his/her working model of relationships with significant others. Specifically, respondents' perceptions of family health, cohesion, and communication were positively correlated with perceptions of personal agency. Undergraduates who believed they were self-efficacious and potent also possessed mental representations of close, healthy family relationships. This pattern of results is nearly identical to findings reported in previous studies with this instrument (Stollak et al., 1991).

Relationships between perceptions of self and family and defensive functioning. Second, perceptions of self and family functioning were systematically related to regulatory, or defensive, functioning. Pearson product-moment correlations indicated that respondents' perceptions of family health were associated positively with mature defensive functioning and negatively with immature defensive functioning. Similarly, perceptions of personal agency were negatively related to reliance upon the least mature defense, Turning Against the Self (TAS), while perceptions of personal neuroticism were positively related to TAS. Moreover, stepwise multiple regression analyses similarly indicated that defensive functioning was predicted by both perceptions of family functioning (i.e., Family Cohesion, Family Health) and by perceptions of personal functioning (i.e., Neuroticism, Agency). These results support the construct validity of the PPFC questionnaire and extend the findings reported in previous empirical research with this instrument (Stollak et al., 1991).

Previous research and theorizing has emphasized early developmental experience in explaining the link between an individual's defensive functioning and his/her perceptions of personal and family functioning (Aronoff & Stollak, 1991). During the first years of life, the child's perceptions and cognitive representations of self and others emerge from interactions with caregivers (Sroufe, 1989). Similarly, these interactions, with inherent frustrations and anxieties, spawn the rudiments of regulatory processes: "...[I]t is unquestionable that the prototypes of the ego defenses

will be processed through the mother-child relation in the course of development" (Spitz, 1961).

Furthermore, results from this investigation support clinical and personality psychologists who have suggested that the individual who has been raised in a family that is characterized by nurturance and positive problem solving skills (indexed by perceptions of family functioning in the present study) will be instilled with a sense of mastery, industry, and self-esteem (indexed by perceptions of personal functioning in the present study). Such individuals should consequently develop effective anxiety management techniques, which are reflected in both positive problem solving skills and in adaptive, mature defensive functioning (Stollak, 1992). Conversely, those respondents who lacked sensitive parenting, and have recollections of unavailable or harsh caregivers, should tend to experience guilt, shame, and mistrust of others. Defensive functioning for these individuals emerges from early, non-optimal caregiving, and serves to maintain these patterns in consequent interpersonal functioning via distortions of experiencing (Main & Goldwyn, 1984).

These results provide greater specificity in delineating the relationship between defensive functioning and perceptions of personal and family characteristics. Although previous research documents an association between recollections of family-of-origin characteristics and defensive distortions, investigations by Main and colleagues and by Grossmann and associates are limited in the description of the defensive processes which are influencing their subjects' recollections (e.g., Grossman, et al., 1988; Main, Kaplan, & Cassidy, 1985). The present study offers a novel contribution in that perceptions of personal and family characteristics were systematically related to subjects' utilization of five defense mechanisms (Projection, Turning against the Self, Turning against the Other, Reversal, and Principalization) as determined by a valid and reliable measure of defensive functioning. Moreover, while previous research has equated defense with pathology, the present study argues that defenses can be adaptive and can foster growth and mastery of environmental challenges (Cramer, 1991). As such, this investigation emphasizes the relationship by documenting an association between positive perceptions of self and others and adaptive regulatory functioning.

Future research in this area should supplement investigations of perceptions through the

exploration of relationships between the individual's behavior in the context of his/her family and defensive behavior. Family interaction tasks, such as those described by Stollak, Crandell, & Pirsch (1991), can be coded along the dimensions of cohesion, adaptability, and communication, which parallel several factors of the instrument used to assess perceptions of family characteristics in this study. Moreover, it has been proposed that defensive functioning may be assessed through videotaped interactions, in addition to the more popular forms of self-report or projective questionnaire assessment. In this behavioral measure of regulatory functioning, interpersonal communication processes are assumed to represent strategies by which tensions are managed (Woike, Aronoff, Stollak, & Loraas, 1991). Behavioral defense mechanisms could be coded along the dimensions of Principalization, Reversal, Projection, and Turning against Others, and could be correlated with categories of behaviors from family interaction tasks.

Finally, this study emphasizes that conceptions of family psychological health as measured by self-report instruments are highly subject to defensive distortion. Many items of the PPFC questionnaire which were allocated to a "Family Health" scale by exploratory factor analysis correlated with an index of immature defensive functioning to a greater extent than with an index of mature defensive functioning, as measured by the DMI. Additional analyses were undertaken to refine the Family Health factor, which resulted in the creation of not only a more valid family health scale, but also provided the PPFC with a scale which assessed defensively-distorted family health, termed "Defensive Perceptions of Family Health."

Relationships between perceptions of personal and family functioning, defensive functioning, and working models of caregiving. Third, there was no consistent evidence to support the general hypothesis that there would be a relationship between subjects' perceptions of personal and family functioning and the degree of sensitivity in respondents' child caregiving schemata as measured via responses to the STC problems. Additionally, there was no consistent evidence found to support the hypothesis that maturity of defensive functioning would be consistently related to aspects of the respondents' "working models" of caregiving.

The lack of significant findings in this area can be attributed, in part, to conceptual and

methodological limitations of this study, including characteristics of the sample and characteristics of the instrument used to assess caregiving schemata.

Conceptual limitations. Although perceptions of personal and interpersonal functioning may be important forces in shaping the individual's conceptions of caregiving, ecologically-minded psychologists (e.g., Belsky, 1984) emphasize the impact of macrosystem and exosystem variables on caregiving attitudes and behaviors. More specifically, this study did not consider the influence of the respondents' cultural background, racial background, or socioeconomic background on responses to children in the hypothetical parent-child conflict situations. Moreover, this study did not assess enduring personality traits (beyond perceptions of personal agency and neuroticism) which may more directly shape "working models" of caregiving. Traits such as self-centeredness and compassion, which were either not assessed by the PPFC or were subsumed under a larger and potentially heterogeneous factor, may affect the respondents' sensitivity in hypothetical parent-child conflict situations (Lamb & Easterbrooks, 1981).

Another limitation of the present study was that respondents were not provided with the opportunity to express their perceptions of their interpersonal functioning in domains beyond the family unit. Thus, the adequacy of this data relies upon: (a) a stable, generalized representation of family functioning, and, (b) the family unit being the most salient system in which the respondent has participated. Unfortunately, neither of these assumptions is necessarily true.

First, the stability of the "traditional" American family has become largely a myth, as family reorganizations associated with divorce and remarriage have become increasingly common experiences in the lives of parents and children (Hetherington, 1992). As approximately 50% of all children under the age of eighteen are expected to experience the divorce of their parents (Glick & Lin, 1986), it is highly likely that college undergraduates' recollections of family functioning are not unitary representations, but rather represent an accumulation of a largely heterogeneous set of experiences.

Second, although the family is the system in which the child is most heavily embedded during his/her formative years, it is by no means the exclusive system in which the child

participates. Caregiving attitudes and behaviors can be acquired from individuals outside of the nuclear family, including members of the extended family (e.g., aunts, uncles, grandparents), neighbors, and family friends.

A last conceptual limitation of the present study involves assessing cognitive representations of caregiving interactions for individuals who probably have not had many opportunities to be child caregivers. Researchers have suggested that the differentiation, abstractness, and integration of a construct, such as a schemata of caregiving, is related to the frequency of relevant social interaction (Applegate, Burke, Burleson, Delia, & Kline, 1985). It might be that experience as a parent, or a history of caregiving interactions, is a main source of an individual's attitudes, beliefs, and expectations regarding caregiving interactions. Perhaps college undergraduates' current notions about caregiving are best considered "tentative," in need of validation, and are subject to change following experience (Goodnow, 1985).

Methodological limitations. In addition to a lack of parenting experience, other sample limitations exist. First, respondents were restricted to a population of young, college undergraduates who were functioning at a level which was sufficient to permit acceptance to and enrollment in a competitive, four-year university. Thus, the generalizability of these results is restricted. Second, although respondents satisfied a research requirement by participating in this study, subjects' level of motivation throughout this investigation is uncertain. Undergraduates may have experienced fatigue while completing two-hours of questionnaires and may not have answered items with as much thought and accuracy as was desirable. The STC questionnaire, a free-response, projective measure, would be especially vulnerable to these fatigue effects. Having subjects verbally respond to tape recordings of conflicts, as Teyber, Messé, & Stollak (1977) did, might be more involving, and may provide a more valid indicator of schemata, rather than responding to a questionnaire.

Further methodological limitations stem from the questionnaires which were utilized. Although the Sensitivity to Children questionnaire is an interesting alternative to self-report instruments for measuring parenting attitudes, it has not been validated. Moreover, despite the

many steps that were taken to train undergraduate coders and to ensure interrater reliability, it may be necessary with this questionnaire to use a group of coders who are more extensively trained in making the required clinical judgments.

Even though this study demonstrated the internal consistency and the construct validity of the PPFC instrument, further psychometric exploration is warranted. Specifically, future research with this questionnaire should focus on measuring test-retest reliability, and the content validity of the items. The latter could be accomplished through (a) judgment of item accuracy by professionals (e.g., psychologists, social workers, etc.); (b) correlating the PPFC against another measure of perceived personal and/or family functioning; or, (c) associating performance on the PPFC with observed and coded interpersonal interactions. Moreover, in an effort to determine if the PPFC is vulnerable to response bias, the effects of social desirability can be determined by correlating the questionnaire with the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964).

Despite measurement difficulties, efforts to assess characteristics of and precursors to an individual's "working model" of caregiving remain valuable. Future studies should not only utilize valid and reliable instruments to measure perceptions of personal and interpersonal characteristics, but should strive towards developing a more comprehensive model of the relationship between perceptions and child caregiving schemata. This would imply addressing variables, in addition to defensive functioning, which moderate and complement this association. Additional variables to be incorporated in future experimental designs can include indices of macrosystem variables (e.g., racial background, SES), enduring personality traits (e.g., empathy, tolerance), and perceptions of salient relationships outside the nuclear family (e.g., grandparents, aunts, uncles). Moreover, assessment of perceptions can be complemented by behavioral observations in these domains. Future studies with these instruments can not only target additional populations, but also can assess the impact of perceptions of personal and family characteristics, defensive functioning, and caregiving schemata on later child behaviors. For instance, it is recommended that married couples pregnant with their first child, and/or parents with infants and toddlers can be incorporated into a prospective study in which parents' questionnaire responses are related to later child outcome. Alternatively,

questionnaire scores from a sample of parents with 6-8 year old children might be related to contemporaneous family interaction and child behavior in school.

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Table 1. Correlations between PPFC, DMI, and STC Factors

	PPFC 1	PPFC 2	PPFC 3	PPFC 4	PPFC 5	PPFC 6	DMI 1	DMI 2	DMI 3	STC 1	STC 2	STC 3	STC 4	STC 5	STC 6	STC 7	STC 8	STC 9
	Fam Hlt	Def Hlt	Neurot	Agency	Cohes	Express	Mature	Immat	TAS	Empath	Anger	Preach	Teases	Withdrw	Power	Psychol	Respon	Fighting
PPFC 1 Fam Health	1.00	-.85****	.01	.15****	.30****	.21****	.10*	-.11*	-.11****	.00	.01	.01	-.04	.01	.05	.04	-.01	.04
PPFC 2 Def Health	-.85****	1.00	-.12****	-.03	-.11****	-.12****	-.01	.22****	.06	.00	-.03	-.04	-.01	-.04	-.04	-.10*	.05	.04
PPFC 3 Neuroticism	.01	-.12****	1.00	-.24****	.04	.00	-.18****	-.20****	.29****	-.09*	.03	.01	.06	-.09*	-.05	-.01	-.03	-.05
PPFC 4 Agency	.15****	-.03	-.24****	1.00	.10**	.27****	.06	.05	-.17****	.05	-.03	-.02	-.06	-.01	.06	.04	.04	.07
PPFC 5 Cohesion	.30****	-.11**	.04	.10**	1.00	.03	.07	.03	-.05	-.04	.05	.00	.03	.01	.04	-.04	-.02	.06
PPFC 6 Expression	.21****	-.12****	.00	.27****	.03	1.00	.01	-.08	-.05	.08	-.06	-.04	-.04	.01	.06	.02	.07	.03
DMI 1 Mature Def	.10*	-.01	-.18****	.06	.07	.01	1.00	-.05	.27****	.08	-.12*	-.02	.00	-.02	.02	.07	.01	.06
DMI 2 Immatur Def	-.11*	.22****	-.20****	.05	.03	-.08	-.05	1.00	-.31****	.14**	-.16***	.02	-.08	-.01	.06	-.05	.02	.02
DMI 3 Turn Ag Self	-.11**	.06	.29****	-.17****	-.05	-.05	.27****	-.31****	1.00	-.11*	-.03	.01	.02	.00	-.04	-.03	-.01	-.07
STC 1 Empat Com	.00	.00	-.09*	.05	-.04	.08	.08	.14**	-.11*	1.00	-.03	.39****	-.09*	.15****	.44****	.43****	.29****	.01
STC 2 Anger Com	.01	-.03	.03	-.03	.05	-.06	-.12*	-.16***	-.03	-.03	1.00	.54****	.60****	.17****	.32****	.18****	.00	-.09*
STC 3 Preaches	.01	-.04	.01	-.02	.00	-.04	-.02	.02	.01	.39****	.54****	1.00	.35****	.23****	.37****	.28****	.07	-.06
STC 4 Teases	-.04	-.01	.06	-.06	.03	-.04	.00	-.08	.02	-.09*	.60****	.35****	1.00	.06	.13***	.12**	-.02	-.05
STC 5 Withdraws	.01	-.04	-.09*	-.01	.01	.01	-.02	-.01	.00	.15****	.17****	.23****	.06	1.00	.14****	.11**	-.11**	-.09*
STC 6 Power Assrt	.05	-.04	-.05	.06	.04	.06	.02	.06	-.04	.44****	.32****	.37****	.13***	.14****	1.00	.33****	.16****	-.08*
STC 7 Psychologiz	.04	-.10*	-.01	.04	-.04	.02	.07	-.05	-.03	.43****	.18****	.28****	.12**	.11**	.33****	1.00	.11**	.01
STC 8 Encour Resp	-.01	.05	-.03	.04	-.02	.07	.01	.02	-.01	.29****	.00	.07	-.02	-.11**	.16****	.11**	1.00	.01
STC 9 Allows Fight	.04	.04	-.05	.07	.06	.03	.06	.02	-.07	.01	-.09*	-.06	-.05	-.09*	-.08*	.01	.01	1.00

**** $p < .001$, two tailed *** $p < .005$, two tailed ** $p < .01$, two tailed * $p < .05$, two tailed

Note: Italics indicate partial correlation coefficients instead of zero-order correlation coefficients

TABLE 2
Stepwise multiple regression analyses: Prediction of DMI composite scales from PPFC

	Multiple R	F change	p value
Dependent variable: Mature Defenses (PRN, REV)			
<i>Predictors</i>			
1. Neuroticism (-)	.1816	15.217	.0001
2. Family Cohesion (+)	.2057	4.330	.0380
Dependent variable: Immature Defenses (PRO,TAO)			
<i>Predictors</i>			
1. Neuroticism (-)	.2116	19.930	.0000
2. Defensive Health (+)	.2835	16.403	.0001
3. Family Health (-)	.3052	5.970	.0150
Dependent variable: Turning Against Self			
<i>Predictors</i>			
1. Neuroticism (+)	.3015	47.602	.0000
2. Family Health (-)	.3246	7.661	.0059
3. Agency (-)	.3396	5.336	.0213

TABLE 3
Stepwise multiple regression analyses: Prediction of STC scales from DMI and PPFC

	Multiple R	F change	p value
Dependent variable: STC 1 Empathic Communication			
<i>Predictors</i>			
1. Immature Defenses (+)	.1215	4.795	.0293
Dependent variable: STC 2 Anger Communication			
<i>Predictors</i>			
1. Immature Defenses (-)	.1469	7.059	.0083
Dependent variable: STC 4 Teases Child			
<i>Predictors</i>			
1. Cohesion (+)	.1144	4.242	.0403
Dependent variable: STC 7 Psychologizes			
<i>Predictors</i>			
1. Defensive Health (-)	.1249	5.071	.0250
Dependent variable: STC 9 Allows Fighting			
<i>Predictors</i>			
1. Turning Against Self (-)	.1309	5.575	.0188

Appendix A
Factor Analysis of the PPFC

Factors I and II: Family Health					Factor loadings
Family Health					
63.	Our family is good at solving problems together.				.770
59.	The future looks good to our family.				.742
28.	When there are problems and stresses in our lives our family has been able to resolve and overcome them very well.				.647
45.	We all have a say in family plans.				.633
57.	Our happiest times are at home.				.600
58.	The grownups in my family are strong leaders.				.562
30.	Our family changes its way of handling tasks when necessary to solve a problem or to reduce stress.				.545
29.	Family members feel closer to other family members than to people outside the family.				.510
Defensive Health					
54.	In our home, we feel loved.				.780
75.	My family is happy most of the time.				.776
70.	Family members pay attention to each other and listen to what is said.				.751
43.	Family members pay attention to each other's feelings				.750
62.	Our family is proud of being close.				.744
77.	On a scale of 1 to 5, I would rate the functioning of my family as:				-.714
1	2	3	4	5	
My family functions well together			My family does not function very well together. We really need help.		
41.	Family togetherness is very important.				.689
48.	There is closeness in my family but each person is allowed to be special and different.				.688
56.	We argue a lot and never solve problems.				-.683
72.	The mood in my family is usually sad and blue.				-.680
64.	Family members easily express warmth and caring towards each other.				.668
73.	We argue a lot.				-.613
46.	The grownups in my family understand and agree on family decisions.				.596
51.	Our family members touch and hug each other.				.596
47.	Grownups in my family compete and fight with each other.				-.553
49.	We accept each other's friends.				.552
52.	Family members put each other down				-.551
76.	Each person takes responsibility for his/her behavior.				.538
69.	Our family members would rather do things with other people than together.				-.536
67.	When things go wrong we blame each other.				-.524
40.	When there are stresses or problems it is hard to identify the leader(s) in our family and we often experience further stresses and problems.				-.523
Factor III: Neuroticism					
21.	I go to pieces under stress. I become rattled and disorganized				.719
22.	When I am under stress, I turn to and depend on others to help me and protect me. I become dependent.				.641

08. I overreact to minor frustrations. I am easily irritated and/or angered.	.602
10. I become rigidly repetitive or immobilized when under stress.	.587
09. I have rapid shifts in mood. My emotions change easily.	.560
12. I am self-reliant, confident, and trust my own judgment.	.553
01. I am fearful and anxious.	.545
02. I feel unworthy. I think of myself as "bad".	.513
13. I withdraw and disengage when under stress.	.509
05. I have bodily symptoms when I am tense and in conflict (for example, headaches, stomach aches, nausea, etc.).	.506

Factor IV: Agency

19. I am vital, energetic, lively.	.641
07. I am self-assertive.	.622
17. I am resourceful in initiating activities.	.611
20. I am aggressive (physically or verbally).	.596
11. I have a rapid personal tempo. I react and move quickly.	.548
15. I am creative in perception, thought, or play.	.527
04. I am emotionally expressive (facially, gesturally, or verbally).	.507

Factor V: Cohesion/Enmeshment

37. We can easily think of things to do together as a family but not when with outsiders.	.678
27. We like to do things only with our family but not with others outside the family.	.650
39. Family members consult other family members on their decisions but not outsiders.	.626
31. Family members like to spend free time only with each other and not with others outside the family.	.611
44. Our family would rather do things together than with other people.	.591
33. Family members feel very good about each other and easily share their feelings with each other but not with outsiders.	.504

Factor VI: Expression

53. We speak our mind, no matter what.	.564
68. We say what we think and feel.	.543
65. It's okay to fight and yell in our family.	.533